CHAPTER 5

ECONOMIC IMPACT RESULTS

This section presents the national-level aggregate compliance costs and economic impacts on regulated facilities under the final regulations.

Section 5.1 presents EPA's estimated impacts to existing sources to comply with the guidelines and standards established under the effluent limitations guidelines program, including Best Practicable Control Technology Currently Available (BPT), Best Available Technology Economically Achievable (BAT), Best Conventional Pollutant Control Technology (BCT), and New Source Performance Standards (NSPS).[1] Results are presented for both commercial and noncommercial facilities. This section also provides a brief comparison of EPA's economic impact analysis of the options considered for the proposed rule in 2002 and other technology options considered by EPA during the development of this rulemaking. More detailed analysis of these other technology options is provided in supporting documentation on the proposed regulation (see USEPA 2002a and 2002b) and in the Agency's Notice on the proposed rule (USEPA, 2003).

Section 5.2 examines the impact to new facilities on complying with the final effluent guideline requirements for New Source Performance Standards (NSPS) and presents EPA's barrier to entry analysis for new sources.

Finally, Section 5.3 presents EPA's assessment of the potential market-level analysis, including the effects of the regulation to U.S. trade, consumer markets, and community level impacts.

5.1 BEST AVAILABLE TECHNOLOGY FOR EXISTING SOURCES (BPT, BAT, AND BCT)

This section presents the results of EPA's analysis of the economic impacts on existing commercial and noncommercial operations. Table 5-1 shows the results of EPA's regulatory impact analysis for both commercial and noncommercial operations.

5.1.1 Commercial Facilities

There are 101 commercial facilities within the scope of the rule. To evaluate impacts to commercial facilities, EPA conducts a closure analysis that compares projected earnings with and without cost of compliance with the final regulation for the period 2005 to 2015. EPA's analysis examines possible closures at three different organization levels: enterprise, facility, and company; results for facilities are presented in Table 5-1. In addition to its closure analysis, EPA assesses other potential effects, considered as "moderate impacts", using a sales test, an evaluation of financial health using an approach similar to that used by USDA, and an assessment of possible impacts on borrowing

[1]Since EPA is not promulgating standards for indirect dischargers, the analysis does not include a discussion for Pretreatment Standards for Existing Sources or Pretreatment Standards for New Sources.

Table 5-1
Economic Effects: Existing Commercial & Noncommercial Operations

Threshold Test	Estimated Number of In-Scope Facilities	Final Option
Commercial Operations		
Closure Analysis[1]	**101**	**0**
Sales test >3%	101	4
Sales test >5%	101	4
Sales test >10%	101	0
Change in Financial Health	NA[2]	0
Credit test >80%	NA[2]	1
Noncommercial Facilities[5]		
Budget test >3% (all facilities)	**141**	**19**
State owned only (# with user fees)[4]	106	12 (8)
Federal owned only	33	7
Alaskan Non-Profit[3]	2	0
Budget test >5% (all facilities)	**141**	**12**
State owned only (# with user fees)[4]	106	8 (8)
Federal owned only	33	4
Alaskan Non-Profit[3]	2	0
Budget test >10% (all facilities)	**141**	**4**
State owned only (# with user fees)[4]	106	0 (0)
Federal owned only	33	4
Alaskan Non-Profit[3]	2	0

Source: Estimated by USEPA using results from facility-specific detailed questionnaire responses, see Chapter 3.
1) Closure analysis assumes discounted cash flow for earnings. A total of 32 facilities are projected to be baseline closures; these facilities cannot be attributed to this rule.
2) Analysis performed at the company level. EPA evaluated 34 unweighted companies representing the 101 weighted facilities from the detailed questionnaire. The statistical weights, however, are developed on the basis of facility characteristics and therefore cannot be used for estimating the number of companies.
3) Two Alaska non-profit organizations are within the scope of this rule, but did not receive a detailed survey. They were costed using screener survey data. Economic impacts were calculated using publically available information.
4) Some State-owned facilities reported that they relied, in part, on funds from State user fee operations. These numbers are reported in parenthesis and are included in the overall numbers as well.

5) EPA maintains that there is potential for Tribal facilities to be present within the population of noncommercial facilities affected by this rule, despite the absence of a line item for Tribal facilities above. EPA, recognizing that the mission of Tribal facilities may differ to some extent from the mission of State and Federally operated facilities, maintains that operating budgets, standardized for production level, are likely to be similar to those presented in Table IX-3 (approximately 3% and 9% respectively).

5.1.1.1 Closure Analyses

EPA projects no closures as a result of the rule for the 8 enterprises, 101 facilities, or 34 companies determined to be in-scope. Projections were based on cash flow as a measure of earnings and 2001 as the starting year for earnings forecasts (Table 5-1). Results for sensitivity analyses regarding assumptions used to assess closures are presented in Section 5.1.1.3. Note that all other analytical results (e.g., costs, cost reasonableness, benefits) reflect cash flow and negative earnings in less than 2 of 3 forecasts. Further information on the characteristics of companies, facilities, and enterprises determined to be in-scope of the rule are contained in Chapter 2. For the purposes of this analysis, EPA assumes these operations are not able to pass on the compliance costs due to the regulation. EPA's assumption of "no cost pass through" is a more conservative approach to evaluating economic achievability among regulated entities, see Section 3.6 of this report. (To evaluate market and trade level impacts, however, EPA assumes all costs are shifted onto the broader market level as a way of assessing the upper bound of potential effect, see Section 5.3.)

Given that no closures are projected to occur under the final rule and that EPA does not attempt to project production changes as a result of the rule, EPA estimates that no employment and other direct and indirect impacts will occur under this rule. Similarly, EPA concludes there will be no measurable local or national impacts in the commercial sector associated with closures. Should some facilities cut back operations as a result of this final regulation, EPA cannot project how great these impacts would be as it cannot identify the communities where impacts might occur (see Section 5.3).

Since EPA's closure analysis projects no facility or company closures under the final regulation, the Agency considers these final technology options to be economically achievable for commercial facilities (and companies).

5.1.1.2 Moderate Impacts

Some operations will likely incur additional moderate impacts, short of closure, see Table 5-1. EPA estimates that 4 commercial facilities incur costs greater than 5 percent of sales. This represents about 4 percent of all existing in-scope commercial facilities and approximately 6 percent of all existing in-scope facilities that are not projected to be baseline closures. No facilities have costs that exceed 10 percent of annual revenue.

EPA's analysis shows one company failing the credit test (which measures borrowing capacity) but no company experiencing a change in financial health as a result of the final regulation. This is based on EPA evaluation of the companies represented in the Agency's detailed questionnaire.

5.1.1.3 Sensitivity Analyses

As discussed in Section 3.2.1.5, EPA performed several sensitivity analyses based on the measure used for earnings (cash flow or net income), starting year for the projections (2001 or 2000), and any non-zero score considered a closure.[2] The results for the baseline closure analysis are:

- (A) Earnings = Net income and starting year for projections = 2001
  Number of baseline closures is 43.

- (B) Earnings = Cash flow, starting year for projections = 2001, and any score above zero is considered a closure. Number of baseline closures is 34.

- (C) Earnings = Cash flow and starting year for projections = 2000
  Number of baseline closures is 27.

- (D) Earnings = Net income and starting year for projections = 2000
  Number of baseline closures is 40.

These compare with the 32 baseline closures under standard methodology where earning are measured by cash flow and the starting year for projections is 2001.

EPA also examined the range of impacts under the final option with these sensitivity analysis. Under sensitivity analyses A and B, there are 2 incremental closures. Under sensitivity analyses C and D, there are no incremental closures.

Additionally, sensitivity analysis C allows EPA to assess impacts on an additional 10 facilities that were baseline closures in the primary analysis. These facilities reported at least one year of non-negative earnings. All 10 facilities are projected to remain open and none would incur any impacts as a result of the rule.

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[2]The difference between cash flow and net income is that EPA adds in depreciation as a cost for the facility when calculating net income (i.e., the earnings for any given year will be lower under net income than they will be under cash flow, assuming the facility reports depreciation in the detailed survey). Cash flow is the primary basis for estimating closures as a result of the rule because it is a more accurate reflection of what is "in the facility's cash register" at the end of any given year, compared to what is reported for tax purposes. Net income is more conservative and a less objective measure (given the different ways a company or facility can report depreciation for tax purposes). Accounting references also recommend discounted cash flow. (See Appendix A)

The second parameter that is varied is the starting year for the earnings forecasts. As noted by several commenters, 2001 was a much less profitable year for the industry as a whole than was 2000.

The third parameter changes the closure decision. Closure is the most severe impact possible, and EPA therefore uses the “weight of evidence” approach to making that decision. Because there are three forecasting methods, the weight-of-evidence approach results in a facility being considered a closure when it shows negative long-term earnings under two or three of the forecasting methods (i.e., score =2). Changing the decision to a facility being considered a closure when it shows negative earnings under one or more forecasting methods (i.e., scores ≥ 1) dilutes the determination to identify situations where, if looked at in one particular manner, a site might show an impact.

5.1.2 Noncommercial Facilities

There are 141 noncommercial facilities within the scope of the rule. Of these, 141 are estimated to incur costs under the final regulation. The count represents Federal, State, Tribal (see Section 2.1 for a discussion of Tribal facilities), and Alaska nonprofit organizations. Based on the detailed questionnaire, EPA identified no academic/research facilities within the scope of the final rule.

In the absence of well-defined tests for projecting noncommercial facility closures, EPA compares pre-tax annualized compliance costs to 2001 operating budgets for noncommercial facilities. This analysis compares the incremental pollution control costs to the operating budget for the government facilities within the scope of the rule, and EPA conducts additional supplemental analysis of those surveyed facilities that report funding from user fees. A slightly different test is used for Alaska nonprofit facilities because they report revenues from harvested salmon. The comparison for Alaska nonprofit facilities is the pre-tax annualized cost to salmon revenues. More detailed discussion is provided in Section 3.3.

5.1.2.1 Budget Test

Objective measures for achievability are not available for public facilities. For Federal and State facilities, EPA compares the pre-tax annualized costs to the 2001 operating budget ("budget test"). EPA's analysis evaluates this test assuming a 3 percent, 5 percent, and 10-percent budget threshold.

Table 5-1 shows the effects on noncommercial operations from the final regulation based on EPA's economic analysis. Of the 141 noncommercial facilities, two are owned by Alaskan non-profits and are analyzed separately in Section 5.1.2.3 Of the remaining 139 noncommercial facilities, 4 facilities incur costs exceeding 10 percent of budget. EPA assumes that those facilities that face costs exceeding 10 percent of their budget would be adversely affected by the final regulation. These 4 facilities employ 16 people. None of these facilities report user fee funds; EPA could not conduct additional analyses to determine whether an increase in fees could offset these results. EPA's results, therefore, indicate that 3 percent of all non-commercial operations may be adversely affected by this final regulation. These operations may be vulnerable to closure based on the results of the Agency's budget test.

Under a 5-percent budget test, 12 facilities exceed the threshold under the final regulation. Among facilities that experience an increase in costs exceeding 5 percent, EPA assumes these facilities would face moderate financial impacts but would not be adversely affected. These results show that an additional 6 percent of all non-commercial operations (not counting those adversely affected) would experience some moderate impact associated with the costs of the rule. Some of these facilities report user fees revenues, see Table 5-1. Therefore, EPA conducts additional supplemental analyses to determine the magnitude of an increase in user fees could offset these results (see Section 5.1.2.2).

Given that the results of EPA's analysis projects that a small share of regulated noncommercial facilities may incur costs exceeding 10 percent of budget, estimated at 3 percent of facilities, the Agency considers these final technology options to be economically achievable for noncommercial facilities.

EPA maintains that there is potential for Tribal facilities to be present within the population of noncommercial facilities affected by this rule (see Section 2.1). EPA, recognizing that the mission of Tribal facilities may differ to some extent from the mission of State and Federally operated facilities,

maintains that operating budgets, standardized for production level, are likely to be similar across all noncommercial facilities, including Tribal facilities. As such, the probabilities of adverse and moderate impacts among Tribal facilities are projected to be similar to those presented in Table 5-1 (approximately 3 percent and 9 percent, respectively). See Section 2.1 for discussion of Tribal facilities.

As part of analyses conducted prior to the Notice of Data Availability (NODA), EPA estimated impacts for Tribal facilities producing between 20,000 and 100,000 lbs/year for Option B (similar to the final Option) and identified no Tribal facility, represented in the detailed questionnaire, which incurred costs that exceeded 5 percent of budget (see also ERG, 2004). These results are for facilities that are not within scope of the final rule, but they provide additional evidence that the final rule is expected to be economically achievable for Tribal facilities.

5.1.2.2 User Fee Test

Table 5-2 provides the results of EPA's supplemental analysis that examines the extend to which government facilities, that fail a given budget test threshold, can recover increased costs through user fees. None of the facilities that fail a 10-percent budget test report funding from State user fees programs; therefore, EPA assumes that these facilities are not be able to raise user fees to offset compliance costs from this rule. However, 8 out of the 12 facilities that fail the 5% budget test reported that they use funds from user fees. These facilities would need to increase these funds by 7 percent to 9 percent to cover incremental compliance costs (see Table 5-2).

Section 3.3 presents information indicating that, when a state increases its fishing license fees (fees are not raised every year), increases typically range between 20 percent to 35 percent. In addition, on average, an increase in user fees by of 20 percent would raise fees to users by about $3 per user; an increase of 8 percent would be less than $1.50 per user (See Table 3-8 in Section 3.3 of this report.). These percent increases are not necessarily comparable to the percent increases in user fees needed to cover compliance costs, but this information still suggests that public facilities have opportunities to secure additional funding and/or alter management goals, that are not inconsistent with current management trends, to accommodate additional compliance costs such as those projected under this rule.

5.1.2.3 Alaska Nonprofit Facilities

EPA analyzed the impact of possible costs on Alaska nonprofit facilities by comparing the pre-tax annualized costs to reported salmon revenues. For the final rule, the costs were less than 0.2 percent of revenues.

Table 5-2
User Fee Analysis for Government Facilities

Budget Threshold	User Fee Increase	Number of Facilities
3%	Number of Facilities Failing Threshold	19
	Number of Facilities Not Reporting User Fee Funds	11
	<5 Percent[1]	0
	>5 Percent[1]	8
5%	Number of Facilities Failing Threshold	12
	Number of Facilities Not Reporting User Fee Funds	4
	<5 Percent[1]	0
	>5 Percent[1]	8
10%	Number of Facilities Failing Threshold	4
	Number of Facilities Not Reporting User Fee Funds	4
	<5 Percent[1]	0
	>5 Percent[1]	0

Numbers do not sum due to rounding.

[1] EPA's detailed survey of noncommercial facilities collected information on operating budgets and also requested that the respondent identify facility funding from fishing licenses, commercial fishing permits, vanity tags for vehicles, and special-purpose stamps. For the purpose of this analysis, EPA combined these funds under the general term "User Fees." The number of facilities that fail a test threshold and do not report user fee funds is reported on the line labeled "No User Fee." The other lines refer to whether a 5 percent increase in funding from user fees would or would not cover the estimated incremental pollution control costs.

5.1.3 Other Technology Options Considered by EPA

As described in Section 4.1, EPA considered a range of technology options during the development of this rulemaking, including Options A and B (discussed in NODA, USEPA, 2003) and Options 1, 2, and 3 (discussed at proposal USEPA, 2002a). This section presents the results of EPA's analysis across each of this regulatory options.

5.1.3.1 Commercial Facilities

Table 5-3 compares the results of the economic analysis of commercial facilities for the 5 regulatory options considered by EPA in addition to the final rule.[3] With regard to the closure analysis for commercial facilities, assuming cash flow and negative earnings for 2 out of 3 forecasts, EPA found no enterprise closures as a result of the rule under any option. For facilities, EPA identified no closures as a result of the rule under the final rule and Options A, B, 1, and 2. Four facilities are projected to close under Option 3. EPA identified no company closures as a result of the rule under the final rule and Options A, B, 1, and 2. One company is projected to close under Option 3.

With no projected facility closures under the final rule or Options A, B, 1, and 2, there are no associated losses in employment or increased local unemployment rates or national losses in employment or output (see Section 5.4). Under Option 3, the four facility closures result in a loss of 15 jobs. The lost jobs, in turn, result in increases of less than 1 percent in the local county unemployment rate. Under Option 3, the national employment loss is estimated to be 58 jobs. The estimated loss in output is $6.3 million in 2003 dollars.

EPA also estimated potential moderate impacts on commercial facilities under these options. Of the 69 facilities in the analysis (i.e., commercial facilities that are not baseline closures), 4 facilities fail a 5 percent threshold (final rule and Options B, 1, and 2). Under Option 3, an estimated 9 facilities fail a 5 percent sales test. No facilities fail a 10 percent threshold under any option considered. EPA projects no changes in financial health under the final rule and Options A, B, 1, and 2. EPA projects that one company is likely to change from favorable to vulnerable under Option 3. EPA projects no impacts on the borrowing capacity of the companies represented in the detailed questionnaire under Options A, B, 1, and 2. EPA projects that one company would have difficulty meeting the credit test under the final rule and Option 3.

EPA also performed a sensitivity analysis of varying O&M costs and for costs associated with activated carbon filtration. Documentation for these analyses is located in the rulemaking record OW-2002-0026 (ERG, 2003a and 2003b).

[3]The numbers in Table 5-3 differ from those presented in USEPA, 2003, Table VI.B.1 due to further refinements in the survey weights and clarifications on facility operations which became available after the NODA.

Table 5-3
Impacts for All Commercial Facilities, All Production Systems

Analysis Level	Number of Facilities or Companies for Which Analysis is Possible[1]	Impact	Option					
			Final	A	B	1	2	3
Enterprise	8	Closure	0	0	0	0	0	0
Facility	69	Closure	0	0	0	0	0	4
	69	Direct Employment Loss (lost jobs)	0	0	0	0	0	15
	69	Increase in County Unemployment (%)	0	0	0	0	0	<1 %
	69	National Employment Loss	0	0	0	0	0	50
	69	National Loss in Output ($ millions, 2003 dollars)	$0.0	$0.0	$0.0	$0.0	$0.0	$6.3
	69	Sales test >3%	4	0	4	4	4	9
	69	Sales test >5%	4	0	4	4	4	9
	69	Sales test >10%	0	0	0	0	0	0
Company	NA[2]	Closure	0	0	0	0	0	1
	NA	Farm Financial Health	0	0	0	0	0	A
	NA	Credit Test	1	0	0	0	0	1

[1]The number of facilities analyzed is equal to the number of in-scope facilities minus baseline closures. The number of companies analyzed is unweighted. Numbers of facilities in analysis and closures based on cash flow and negative earnings under 2 of 3 forecasts.
[2]Analysis performed at the company level. EPA evaluated 34 unweighted companies representing the 101 weighted facilities from the detailed questionnaire. The statistical weights, however, are developed on the basis of facility characteristics and therefore cannot be used for estimating the number of companies.
A: one company changes from favorable to vulnerable.

5.1.3.2 Noncommercial Facilities

Table 5-4 compares the results of the economic analysis of noncommercial facilities for the final rule and the 5 other regulatory options considered by EPA. Table 5-4 presents the findings for a 3, 5, and 10-percent budget threshold. The final rule shows impacts within the range represented by Option A and Option B and equal to or lower than the impacts for Options 1, 2, and 3. Option 3 shows the most facilities exceeding the 10 percent threshold.

Table 5-4 also shows the results of EPA's supplemental analysis of noncommercial facilities that report funding from user fees that are expected to incur costs exceeding EPA's budget test. Not all noncommercial facilities generate revenue from user fees. Under the 10 percent budget test, none of the affected facilities report user fee income under final rule and Options A, B, 1 and 2. The additional 4 facilities that fail the 10 percent budget test under Option 3 report user fee income and that income would need to increase more than 5 percent to cover the incremental pollution control costs.

Under the 5 percent budget test, the final rule is more flexible than Option A; 8 of 12 facilities have the potential to recover higher costs through increased user fees under the final rule while 0 of 7 facilities have that potential under Option A. As with the 10 percent budget test, the facilities would need to raise fees by more than 5 percent to compensate for the costs associated with the particular technology option.

5.1.4 Operations Producing Less than 100,000 lbs/yr

As part of the development of this final regulation, EPA also considered extending option requirements to existing operations that produce between 20,000 lbs/yr and 100,000 lbs/yr (see USEPA, 2002a and 2003). Section 5.1.4.1 provides a description of this group that are CAAP facilities but not within the scope of the rule. Section 5.1.4.2 provides a summary of EPA's regulatory analysis of the estimated impacts of Options A and B on facilities in this size category. More detailed information is the rulemaking record (ERG, 2004).

5.1.4.1 Description

There are approximately 257 facilities with production between 20,000 lbs/yr to 100,000 lbs/yr based on the detailed questionnaire compared to the estimated number of in-scope facilities is 242. Of these smaller facilities, 81 are commercial and 176 are noncommercial. Table 5-5 summarizes the number of commercial and noncommercial facilities by production system.

Of the 81 commercial facilities, 36 facilities (or 44 percent) report unpaid labor and or management. Thirty-five facilities (or 43 percent) are unprofitable in the facility closure analysis before the inclusion of incremental pollution control costs. The 81 (weighted) commercial facilities are represented by 16 unweighted companies[4] with the following organizational structure: 7 sole proprietorships, 2 partnerships (1 limited and 1 general), 4 S Corporations, and 3 C Corporations.

[4]A facility in the 20,000 to 100,000 lbs/yr category belongs to a 17th company that also owns in-scope (>100,000 lbs/yr) facilities. In order to avoid double-counting this company, it is not included in the count of companies in the 20,000 to 100,000 lbs/yr group.

Table 5-4
User Fee Analysis for Government Facilities

Budget Threshold	Estimated Number of Facilities	Number of Facilities					
		Final	Option A	Option B	Option 1	Option 2	Option 3
3%	Number Failing	19	11	26	19	23	45
	No User Fee	11	11	18	11	15	34
	<5 Percent	0	0	0	0	0	0
	>5 Percent	8	0	8	8	8	12
5%	Number Failing	12	7	15	15	15	24
	No User Fee	4	7	7	7	7	12
	<5 Percent	0	0	0	0	0	0
	>5 Percent	8	0	8	8	8	12
10%	Number Failing	4	3	7	7	7	11
	No User Fee	4	3	7	7	7	7
	<5 Percent	0	0	0	0	0	0
	>5 Percent	0	0	0	0	0	4

Numbers do not sum due to rounding.
[1] EPA's detailed survey of noncommercial facilities collected information on operating budgets and also requested that the respondent identify facility funding from fishing licenses, commercial fishing permits, vanity tags for vehicles, and special-purpose stamps. For the purpose of this analysis, EPA combined these funds under the general term "User Fees." The number of facilities that fail a test threshold and do not report user fee funds is reported on the line labeled "No User Fee." The other lines refer to whether a 5 percent increase in funding from user fees would or would not cover the estimated incremental pollution control costs.

Approximately 41 percent of the organizations are sole proprietorships. Of the 16 companies, all but one are small businesses. Overall, as compared with in-scope facilities, facilities that produce between 20,000 lbs/yr and 100,000 lbs/yr are more likely to be sole proprietorships, more dependent on unpaid labor and management, belong to a small business, and less likely to be profitable.

The 176 noncommercial facilities in the detailed questionnaire data that produce between 20,000 lbs/yr to 100,000 lbs/yr include: 154 Government facilities; 7 Alaska nonprofit organizations; one Academic/research facility; and 14 Tribal facilities. That is, operations with between 20,000 lbs/yr to

100,000 lbs/yr group of facilities encompasses an additional type of organizations—academic/research facilities.

Table 5-5
Number and Types of Facilities with Annual Production between 20,000 and 100,000 Pounds

Production System	Owner	Estimated Number of Facilities				
		Initial Facility Count	Baseline Closures	In Analysis [1]	In Analysis that Incur Costs	In Cost Totals [2]
Flow Through and Recirculating	Commercial	81	35	46	41	47
	Non-commercial	175	NA	175	175	175
Net Pen	Commercial	0	0	0	0	0
	Non-commercial	1	NA	1	0	1
Total	Commercial	81	35	46	41	47
	Non-commercial	176	NA	176	176	176

Totals may not sum due to rounding
NA: not applicable.
[1] In analysis counts are calculated by subtracting out baseline closures from the initial facility count.
[2] Start-up operations are in the cost totals but have insufficient information to be in the economic analysis.

5.1.4.2 Economic Impact Analysis

For comparison purposes EPA conducted an analysis of the regulatory impacts under two regulatory options (Option A and Option B) for this size group (production between 20,000 lbs/yr to 100,000 lbs/yr).[5]

For commercial facilities, EPA's analysis indicates that all facilities in the 20,000 lb/yr to 100,000 lb/yr category that are financially healthy enough to pass the baseline analysis are healthy enough to remain open under either option. None of the commercial companies experience a change in financial health or suffer impaired credit. No operations fail the 5 percent sales test threshold. For noncommercial facilities, EPA's analysis indicates that a substantially higher number of operations would fail a 10-percent budget test, estimated at 8 facilities (Option A) and 23 facilities (Option B) or 5 percent and 13 percent, respectively. This compares to 3 percent and 9 percent of facilities that may be adversely impacted among operations that produce more than 100,000 lbs/yr. No Tribal, academic/research, and Alaska nonprofit facility fails a 5-percent budget test. More detailed information is the rulemaking record (ERG, 2004).

[5]These facilities are not within the scope of the final rule and, thus, final rule costs were not estimated for them.

5.2 NEW SOURCE PERFORMANCE STANDARDS (NSPS)

To evaluate potential effects to new aquaculture facilities, EPA examines possible barriers to entry to a new facility because of the final regulation. First, EPA examines the proportion of commercial facilities that incur no costs under each option. About 4 percent of regulated facilities do not incur any costs under the final regulation. Second, EPA examines the proportion of commercial facilities with no land or capital costs under each option. About 76 percent of facilities incur no land or capital costs. Third, for the subset of companies with incremental land or capital costs, EPA examines the ratio of those costs to total company assets. This comparison is calculated on company data because asset data were collected only at the company level. (Facility weights cannot be used for the company analyses.) EPA calculates the ratio for each company and took the average of the ratios. The incremental land and capital costs, where they were incurred, represented less than 0.2 percent of total assets. Based on these results, the final regulation does not appear to present a barrier to entry to new operations.

EPA also evaluated the regulatory analysis of new source facilities with production between 20,000 lbs/yr to 100,000 lbs/yr. For comparison purposes EPA conducted an analysis of the regulatory impacts under two regulatory options (Option A and Option B). About 10 percent of expected new facilities in this size category incur no costs under the final regulation. EPA's analysis examines the proportion of commercial facilities with no land or capital costs under each option. Nearly two-thirds of the facilities incur no land or capital costs under the final regulation. Among facilities that incur costs, these costs are annual costs rather than land or capital for two of every three facilities. The incremental land and capital costs, where incurred, account for about 1.5 percent of total assets under the final regulation. More detailed information is the rulemaking record (ERG, 2004).

5.3 MARKET AND FOREIGN TRADE IMPACTS

5.3.1 Market Impacts

EPA was not able to prepare a market model analysis for this rule for reasons described in Section 3.6 of this report. Because EPA was not able to prepare a market model analysis for this rule, the Agency is not able to report quantitative estimates of changes in overall supply and demand for aquaculture products and changes in market prices, as well as changes in traded volumes including imports and exports. EPA examined the impacts two ways. In the first or base analysis, no costs are passed through to the consumer and all impacts fall on commercial facilities (i.e., conservative approach for closure analysis). In the second case, all costs are assumed to be passed to the consumer and no impacts fall on the commercial facilities. As a result of comparing the results of the analyses, EPA does not expect significant market impacts as a result of this final regulation.

For closure analysis, results show that no commercial facilities are projected to close under a "no cost pass-through" assumption. About 3 percent of all noncommercial facilities might experience adverse financial effects associated with the rule (Section 5.1). These estimated impacts coupled with the overall cost of the rule, as compared to the total value of the U.S. aquaculture industry, lead EPA to believe that the effects of this regulation on U.S. aquaculture markets will be modest.

To approximate potential maximum market impacts on the consumer under this final rule, EPA performed a bounding analysis on prices if all costs were passed through to the consumer. Under this scenario, there would be no impacts on commercial facilities because all costs were passed through to the

consumer. The estimated pre-tax cost of the final rule to in-scope commercial facilities that would be passed to the customer is $0.279 million in 2003 dollars (based on estimates shown in Table 4-3). The amount of 2001 production from in-scope flow-through, netpen, and recirculating commercial facilities is 94 million pounds (see Table 2-6). If all costs are assumed to be passed through, the typical price per pound would increase, at most, by 0.3 cents per pound because of this final regulation.

5.3.2 Foreign Trade Impacts

Although foreign trade impacts are difficult to predict, since agricultural exports are determined by economic conditions in foreign markets and changes in the international exchange rate for the U.S. dollar, EPA does not expect significant changes in net trade as a result of this final regulation. EPA projects no rule-induced closures as a result of this rule. EPA also believes that long-term shifts in supply associated with this rule are unlikely given competition from domestic wild harvesters and foreign suppliers.

As discussed in Section 3.6 of this report, the U.S. is not a major player in world aquaculture markets, accounting for about 1 percent of world production by weight. Due to the relatively small market share of U.S. aquaculture producers in world markets, EPA believes that long-term shifts in supply associated with this rule are unlikely given expected continued competition from domestic wild harvesters and foreign suppliers. Although increased costs of this final regulation could exacerbate competitive pressures that are already facing U.S. aquaculture producers, EPA believes that any future widening of the current trade gap between U.S. imports and exports will be mostly attributable to existing market influences beyond the cost of this final regulation. This is based on information on the current competitive role of the U.S. in world aquaculture markets and also expectations that consumer aquaculture demand in the U.S. will continue to outpace U.S. domestic production. This is confirmed by an FAO study of projected changes in U.S. aquaculture production and net trade from 1997 to 2030 indicating modest increases in U.S. production but an increase in net imports, mostly attributable to rising consumer demand. EPA concludes therefore that the impact of this final rule on U.S. aquaculture trade will not be significant.

Current competitive pressures facing U.S. aquaculture producers might also be challenged through other U.S. governmental programs that are designed to address concerns about competition to U.S. farmers from lower-cost world producers. For example, the 2002 Trade Act (Public Law 107-210) established the Trade Adjustment Assistance for Farmers program. Under this program—administered by USDA's Foreign Agricultural Service (FAS)—U.S. agricultural producers (including those that raise aquatic animals) may be eligible for technical assistance and a financial payment, if they believe they have suffered from low prices due to increasing imports.

5.4 REFERENCES

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